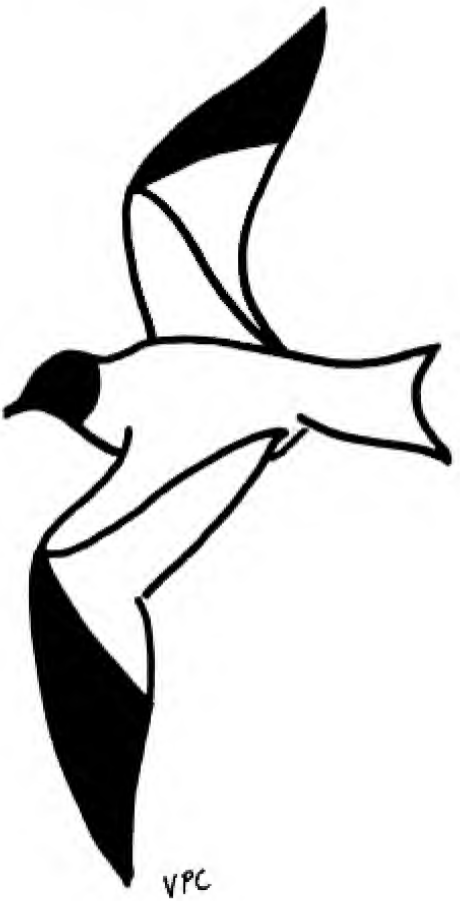
CALIFORNIA BIRDS



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CALIFORNIA BIRDS

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THE AMERICAN REDSTART IN CALIFORNIA

Guy McCaskie

The American Redstart *(Setophaga ruticilla),* one of the most abundant breeding species in the eastern portion of North America, reaches as far west as the coast of southeastern Alaska and extreme northeastern Oregon as a nesting bird. It winters primarily in Central America and in the West Indies with numbers reaching the northern portions of South America and southern Mexico, and part of the population is known to winter along the west coast of Mexico north to Sonora. Its migration route is primarily across the Gulf of Mexico and through the West Indies, with significant numbers using the east coast of Mexico; the northwestern population is thought to migrate east of the Rockies both during the spring and fall, and it is considered a rare migrant in the southwestern United States.

The American Redstart is noted most frequently in three areas of California. 1. Most of the records are from the immediate vicinity of the coast between Point Reyes, Marin County (one record for Humboldt Bay, Humboldt County, is the only coastal record in California north of this point) and Imperial Beach, San Diego County, an area with many observers. I know of 212 fall and 30 spring records for this region. The majority occur during the fall migration in the southern portion of the region where numbers may be augmented by individuals moving southwestward from the southern end of the Sierras. Of the 12 winter reports for the coast region five birds were observed for more than one or two days: Sebastopol, Sonoma County, between 24 February and 9 March 1963 (National Audubon Society, 1963);

Carmel, Monterey County, between 11 January and 3 February 1964 (National Audubon Society, 1964), and between 2 December 1967 and 14 January 1968 (National Audubon Society, 1968); San Diego, San Diego County, between 2 December 1962 and 20 April 1963 (pers. obs.), and between 25 January and 4 April 1964 (pers. obs.). Some of these records indicate the American Redstart can successfully winter along the coast of California, though it certainly does not do so regularly or in any numbers.

2. American Redstarts are recorded regularly from some localities east of the Sierra Nevada. I know of 47 fall and 20 spring records for this region. Since there are very few observers in this area, the number of records would indicate the American Redstart may be more common here than elsewhere in California. One or more can usually be found at Deep Springs, Inyo County, in late May or early June, or in September, and five have been recorded here on more than one occasion in early September.

3. There are 17 fall, 28 winter, and nine spring records for southeastern California, including the area around the Salton Sea and along the Colorado River. The majority of the winter records are from the Salton Sea area where I have seen as many as seven individuals together during January. This indicates that the American Redstart may be a regular winter visitor in this region. As this is an area with few observers the species is probably every bit as common here as it is along the coast. Records away from these three areas include one from the Sierras and three from the coastal mountains, both areas with few observers but ample habitat in which a single bird is hard to locate, and three from the Sacramento and San Joaquin Valley region, where there are observers on the lookout for this species. This may indicate it does not often get into the Central Valley of California.

All of the 382 occurrences of the American Redstart known to me through 1968 are summarized in Figure 1. Each occurrence is plotted to show the time of the year it was found. To do this an arbitrary year starting on 1 January was chosen and then broken down to the standard 52 weeks. Each occurrence was plotted according to the week of the year in which it was recorded (e.g., a bird seen on 17 January is indicated above the third week of the year). Individuals known to have remained in one locality for more than one week were removed from the lower portion of the figure and are indicated at the top of the figure; this was done to prevent a false impression of abundance during the winter period. The recorded occurrences of the American Redstart were obtained from a number of sources. All the

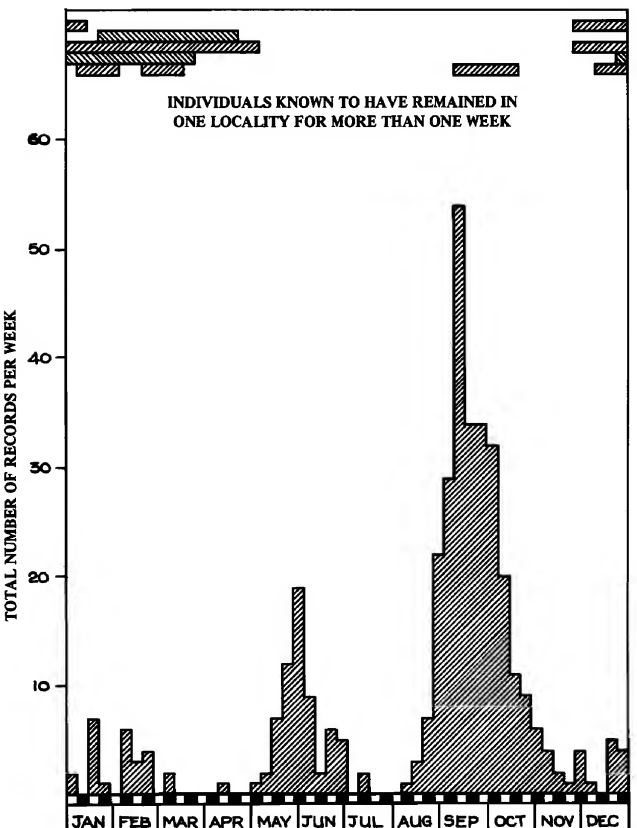

FIGURE 1. The seasonal distribution of American Redstart records in California.

individuals recorded in the four regional reports (Great Basin, Central Rocky Mountain Region; Southwest Region; Middle Pacific Coast Region; and Southern Pacific Coast Region) of Audubon Field Notes Vol. 1, No. 1 through Vol. 23, No. 1 were used in addition to those recorded in the referenced literature; all the individuals recorded in my personal notes, and others reported to me by persons I felt reliable, were used; and all the unpublished specimen-supported records deposited in the museum collections I have checked (California Academy of Sciences, Los Angeles County Museum, Museum of Vertebrate Zoology – Berkeley, San Bernardino County Museum, and San Diego Natural History Museum) were incorporated in the figure.

Note that the peak of the spring migration is approximately 1 June, or about one month later than that expected for warblers which normally migrate through California to the northwestern portion of North America. As spring records of vagrant eastern warblers in California also tend to occur in late May and early June, this suggests that the American Redstarts occurring in California in spring are also vagrants, and are not following a normal route from their winter quarters to their nesting grounds. Individuals seen in April may be birds that have wintered in California; late June and July records are probably spring migrants that have become hopelessly lost.

The peak of fall migration for most western warblers, as well as for the American Redstart, occurs in September. On the other hand, fall records of eastern vagrants tend to occur much later in the year. This suggests that some American Redstarts normally move south through California during the fall, perhaps from the northwestern part of the species' range to the western coast of Mexico or even to southern California for the winter.

Pulich and Phillips (1953) discussed the possibility of a desert flight line centered on the Lower Colorado River Valley. If there is such a flight line, however, it would have to include the whole of southeastern California. Their 4 spring and 11 fall records for the Nevada and Arizona side of the Colorado River all fall within the two peaks indicated on Figure 1. It is most likely their fall records pertain to birds that have moved south along the east side of the Sierras and fanned out over the desert, and that their spring records pertain to vagrants. The lush vegetation along the Colorado River Valley will obviously attract and hold any migrant warbler in the area, and thus we can expect more records from this area than from the surrounding desert area.

SUMMARY

The American Redstart is apparently a regular and normal fall migrant along the coast of California and along the east side of the Sierras, fanning out over the deserts of southeastern California. It appears to be a regular vagrant during the late spring rather than a normal west coast spring migrant and occurs in the same areas where it occurs during the fall. A small number of American Redstarts regularly winter in the vicinity of the Salton Sea and possibly elsewhere in southeastern California, and a few individuals have wintered along the coast from San Francisco Bay southward.

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IDENTIFICATION AND DISTRIBUTION IN CALIFORNIA OF THE *SPHYRAPICUS VARIUS* GROUP OF SAPSUCKERS

Pierre Devillers

INTRODUCTION

In his recent paper on avian hybridization, Short (1969) recommended that the three sapsuckers, Yellow-bellied *Sphyrapicus varius*, Red-naped *S. nuchalis*, and Red-breasted *S. ruber* be treated as distinct species, thus opening a new chapter in a long controversy. *S. ruber* was described as a new species in 1788 by Gmelin. Ridgway was the first to suggest its subordination to *S. varius* in 1872 and again in 1873 and 1874. In his "Birds of North and Middle America" (1914) he returned to treating it as a distinct species. Meanwhile the A.O.U. Check-list had retained the full species status in its three first editions (1886, 1895 and 1910), changing to a racial treatment in the fourth edition, in contrast with Ridgway's own change of mind. *S. nuchalis*, described by Baird in 1858, was subsequently treated as a race of *varius* by most authorities, starting with Coues in 1872 and Ridgway in 1873, but Ridgway included a note of warning in "Birds of North and Middle America", writing, ". . .I believe that it would be better to consider [*nuchalis*] as specifically distinct from *S. varius*." The main issue was already the interpretation of the "intermediates" or "hybrids". Grinnell (1901), for instance, claimed to see "continuous intergradation" between *S. varius* and *S. ruber* through *S. nuchalis*, a view opposed by Ridgway but one which presumably weighed heavily in the later decision of the A.O.U. Clearly, arguments over specimens could not lead anywhere, and careful study of the contacts between the forms was required, a need which was partially filled by Howell (1952). After studying in detail the contacts between the Red-breasted and the Red-naped Sapsuckers and summarizing the very scanty information available on the contacts between the Yellow-bellied Sapsucker and the other forms, Howell supported the then current treatment of the A.O.U., considering the three forms as conspecific. Dickinson (1953),

on the contrary, found convincing evidence for retaining *ruber* as a distinct species in his analysis of British Columbia material. Apparently little further progress was made in the field, but in 1969, Short, in the course of a general reassessment of the taxonomic implications of hybridization, applied his criteria to Howell's information and thus reversed the latter's decision.

A result of the long treatment of the three forms as races of one species, is the complete lack of information on identification in field guides and a consequent confusion as to the status of the various forms in several areas. In California, for instance, there is a widespread belief that most birds are "intermediates", resulting in reluctance of field observers to make positive identification of these forms, finally leading to ignorance of their comparative distribution and abundance, and failure to recognize real hybrids or ascertain their frequency. Even specimens are misidentified, sometimes in a manner that approaches the unbelievable. It seems warranted, therefore, to summarize the problems related to the identification of the three sapsuckers, their distribution, and the frequency of hybrids.

Throughout the paper *S. varius, S. nuchalis,* and *S. ruber* are considered as distinct species, as suggested by Short (op. cit.). This treatment is also followed by McCaskie, Devillers, Craig, Lyons, Coughran, and Craig in the California Checklist (1970). This choice will be further explained in the paragraph devoted to the contacts between the species.

GENERAL DISTRIBUTION

As a background to the discussion, an outline of the general distribution is presented here, condensed from Howell (1952), the A.O.U. Check-list (1957), Godfrey (1966), Griscom in Miller et al (1957), and various other sources which are quoted where relevant. Designations of the biomes are those of Shelford (1963), and are capitalized.

The Yellow-bellied Sapsucker breeds in the southern half of the trans-continental Boreal Coniferous Forest belt and in the Northern Temperate Deciduous Forest of the eastern United States and Canada.

In the West its range extends to southern Yukon and includes northeastern British Columbia (Peace River Valley) and western Alberta (east of the Rockies). Within this region it occurs in deciduous or deciduous-coniferous stands, particularly where poplars and birches are important constituents. It winters throughout the southeastern United States and Central America, north to about 40 degrees latitude, west to central Oklahoma (Sutton, 1967), eastern Texas, eastern Coahuila, southern Durango, and southern Sinaloa. It is of irregular occurrence in southern Arizona (Phillips, Marshall, and Monson, 1964).

The Red-naped Sapsucker is characteristic of the Montane Coniferous Forest region of western North America (excluding the Sierra Nevada). It breeds north to southeastern British Columbia and southwestern Alberta, west to the east slope of the Cascades and a few points on the east slope of the Sierra Nevada, south to central Arizona (Phillips et al, 1964) and the Mogollon Mountains of southern New Mexico (Hubbard, 1965). Outside the range mapped by Howell, it has been found nesting in the Black Hills of South Dakota by W. and K. Eastman (Gammell and Huenecke, 1954; Gammell, 1956; no supporting details). It breeds in forests containing aspen or aspen mixed with conifers, more rarely in predominently coniferous forests. It winters in southern California, most of Arizona (except the northwest), southern New Mexico, the whole of Baja California, and the northwestern part of the Mexican mainland.

The Red-breasted Sapsucker has two well differentiated races. The northern race, *S. ruber ruber,* is practically limited to the Rainy Western Hemlock Forest of the northern Pacific coast, occurring from southeastern Alaska to southern Oregon, and extending east of the Cascades at a few points in Oregon and Washington, as well as inland in British Columbia to the Peace River Parklands. It winters in the coastal part of its range. The southern race, *S. ruber daggetti,* breeds in a small region of the southern part of the same biome in northwestern California as well as in the Cascades of southern Oregon, the Sierra Nevada, and the higher mountains of southern California. It is a bird of aspen-ponderosa pine association, except in its restricted coastal range. It winters at lower elevations throughout California and in northwestern Baja California.

It is evident from this that the three species have different migrating habits, *varius* being a long distance migrant, *nuchalis* intermediate, and *ruber* a short distance migrant, the northern race almost resident.

Red-naped Sapsucker *S. nuchalis,* **presumed female, at nest hole in an aspen, western Wyoming, July 1969.** *Photo by Herbert Clarke.*

Red-breasted Sapsucker *S. r. daggetti* bathing in a small stream, Mt. Pinos, June, 1968. *Photo by Herbert Clarke.*

NATURE OF THE CONTACTS

This section is a summary of the information gathered by Howell; its purpose is to further explain why the three forms are treated as distinct species; in addition it will clarify views about prevalence and significance of hybrids.

THE RACES OF *RUBER*

The two forms, *ruber* and *daggetti,* meet in southern Oregon between Klamath Lake and the coast. Inland the replacement is rather abrupt, but in the coastal region there is apparently progressive intergradation which justifies the treatment of the two forms as conspecific. All intermediates can thus be expected, both in the contact area and in the winter range of *daggetti.*

CONTACTS OF *VARIUS* WITH THE OTHER TWO FORMS

Next to nothing was known about the possible contacts of the Yellow-bellied Sapsucker with the other two species at the time of Howell's studies; he did not investigate them himself, and, as far as I know, they have not yet been studied. This remains the main gap in our knowledge of the complex and one which will have to be filled before any reasonably certain conclusions can be drawn. The Yellow-bellied and Red-naped Sapsuckers are presumed to come in contact in western Alberta but the region has not been critically explored; it is further assumed, because of the scarcity of possible hybrids in series of birds taken on migration or in winter, that interbreeding is very limited (Howell lists six possible hybrids). *S. varius* definitely comes in contact with *S. ruber ruber* in northern British Columbia, in the Peace River Parklands. Prior to Howell's study there had been two observations in that region, one (Swarth, 1922) including an apparent mixed pair observed (*varius* + *varius* x *ruber*) and a lone hybrid collected, the other (Cowan, 1939) a pair of typical *ruber* breeding within eight feet and fifty feet, respectively, of two pairs of *varius.* I have been able to trace only two recent observations, both merely indicating the presence of lone Yellow-bellied Sapsuckers in the known range of the Red-breasted, north of Prince George (Rogers, 1968 and 1969). No hybrids are known from the migration routes, but they could be confusingly similar to *nuchalis* x *ruber* or *nuchalis* x *daggetti* hybrids, or even typical

nuchalis, as indicated by the specimen taken by Swarth, described by Howell.

CONTACTS OF *NUCHALIS* AND *RUBER*

The ranges of *S. nuchalis* and *S. ruber daggetti* come in contact along the eastern slope of the Cascade-Sierra ranges from southern Oregon to central California. The overlap region is always very narrow. The contact was studied in detail by Howell in Modoc County, extreme northeastern California. He found the overlap region to be about forty miles wide; at a point in the middle of this area, he found the following repartition for a sample of forty-two individuals: eight typical *nuchalis,* fourteen typical *daggetti* and twenty birds showing some degree of intermediacy. (Of these, eleven are in the categories labeled as close to one species but with traces of the other, which could include some extreme variants of the pure forms in addition to true hybrids.) Thus, even with the most severe criterion, more than fifty per cent are typical birds. In central California, the contact seems to take place almost without overlap and with very little interbreeding. In the Sierra Nevada *daggetti* occurs virtually alone; collecting nine miles west of Benton produced ten *daggetti* and one hybrid, in the Sweetwater Mountains nine typical *daggetti,* one typical *nuchalis* (Howell, op. cit.). Just to the east, in the White Mountains, *nuchalis* is the only form present and is common (Miller and Russel, 1956; McCaskie, pers. comm.). The same situation prevails farther to the southeast in the Spring and Sheep Ranges of Nevada where, however, Johnson (1965) recorded two hybrids, very close to pure *daggetti,* one in each range; the Sheep Range bird was paired with a *nuchalis* female. An individual *daggetti* with traces of *nuchalis* characteristics was collected on 16 September 1964 in the Charleston Mountains (Austin and Bradley, 1965). Still farther southeast, a lone *S. r. daggetti,* apparently unpaired, was taken in the Hualapai Mountains (Arizona) in July 1959 (Coppa, 1960); *nuchalis* was breeding in the vicinity.

The northern race of *S. ruber, S. r. ruber,* meets *S. nuchalis* along the Cascades from southern Oregon to central British Columbia (with *ruber* to the west of *nuchalis*) and in the Cariboo Region of central interior British Columbia (with *ruber* to the north of *nuchalis*); Howell studied their contact at two points and in both cases found almost no overlap, but instead an abrupt replacement of one form by the other. At the Cascade location (where the replacement occurred on either

side of a burn 2.7 miles long), he noted 10 pairs in the contact area, only one of which was mixed (female *nuchalis* with male *ruber* showing slight traces of hybridization). At the Cariboo region location, between Quesnel and Williams Lake, he noted complete replacement of one form by the other over 1.5 miles (except for one *ruber* and one intermediate found paired with *nuchalis* in the range of the latter, among five pairs of pure *nuchalis*). In the replacement zone he found two pairs of *ruber*, two pairs of *nuchalis*, one pair of intermediates, and one pair involving an intermediate and a *nuchalis*.

Recently a pair of apparently pure *nuchalis* was found nesting thirty miles north of Quesnel, well to the north of the contact studied by Howell and within the range of *ruber* (Rogers, 1967). Together with the recent observations of *varius* in the Prince George region, this brings the three species within a fairly limited area.

CONCLUSIONS

Short (op. cit.) has proposed that contact areas be classified either as "hybrid zones" if only hybrids occur in the area of hybridization, or as "zones of overlap and hybridization" if both parental forms are present in the zone, as well as numerous hybrids. In the latter case, the parental forms are actually sympatric, and Short recommends treating them taxonomically as species. The number of parental phenotypes that must be present to preclude the possibility of their being the result of recombination is arbitrarily fixed by him at not less than five per cent of the population.

It is clear from the previous discussion that the contacts between *S. ruber* and *S. nuchalis* both qualify as "zones of overlap and hybridization", justifying their treatment as distinct species. Indeed, the contact between *ruber* and *nuchalis* involves very few hybrids, while that between *daggetti* and *nuchalis* involves about fifty per cent hybrids at most, well below the threshhold proposed by Short. The same applies to the overlap between *varius* and *ruber*, as far as we know. On the other hand, the criterion cannot be applied to the *varius-nuchalis* relationship. The specimens from the wintering area constitute only indirect and very poor evidence for limited interbreeding. A far more convincing argument for holding them as distinct species is found in the juvenile plumage and the timing of the moult. In these characters the two forms certainly do not seem more closely related than *nuchalis*

and *ruber* are. Let us still emphasize, however, the need for a study of the presumed overlap area.

IDENTIFICATION

From the foregoing it is clear that one should not expect a high proportion of hybrids on the wintergrounds, and therefore the idea that most sapsuckers are intermediate should certainly be discarded. It remains true that the possibility of hybrids considerably complicates certain aspects of the identification problem. Conversely, recording possible hybrids away from their breeding grounds can be very interesting in connection with the study of the migrations of the species, and careful notes should be made of any bird presumed to be intermediate.

Descriptions of all the forms can be found in Ridgway (1914) and Howell (1952); Bent (1939) discusses the juvenile plumages and the progress to maturity. The discussion of identification in this section is based on their accounts, on personal field notes, and particularly on examination of the collection of the San Diego Natural History Museum (hereafter referred to as SDNHM), consisting of 21 *varius*, 102 *nuchalis*, and 62 *ruber*.

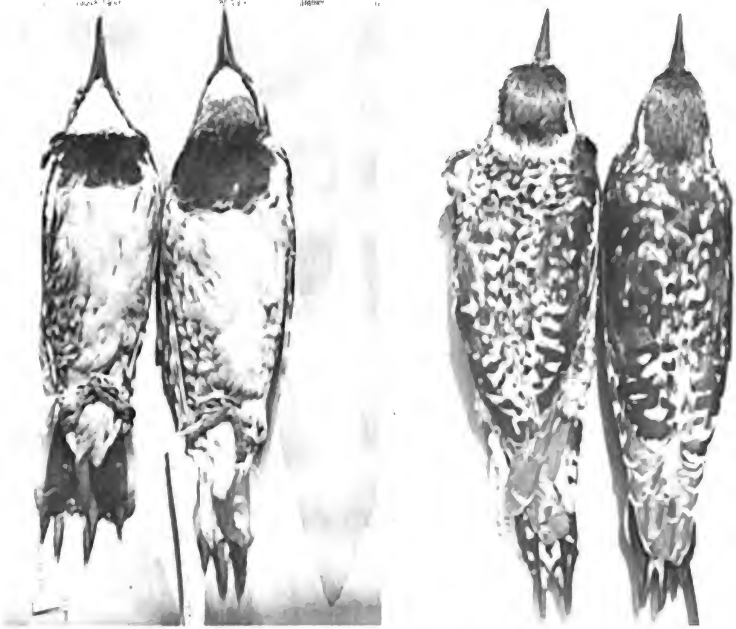
ADULTS

Adult Red-breasted Sapsuckers (males and females alike) are separated at first glance (except from hybrids!) by their complete red hood, including head, nape, and breast (fig. 11 & 12). It should be noted, however, that the dark and pale head markings of the other forms remain visible as an underlying pattern in *S. r. daggetti* and, to a much lesser extent, in *S. r. ruber*. Most field guides depict *S. r. ruber*, which accounts for the false impression that the *daggetti* seen are "intermediates". In fact, a long white or whitish moustache, black lores, and a white postocular spot are normal features of *S. r. daggetti;* this race has as much white on the back as *S. nuchalis*, or slightly less. *S. r. ruber* differs from *S. r. daggetti* (see fig. 11) by its deeper red and usually more extensive hood with the head pattern very obscure, a blacker back with the white reduced to two very narrow stripes, broken and often tinged with yellow, and deeper yellow underparts. However, the two races do not normally occur together, and they are too similar to allow reliable field identification of possible strays, unless the bird is handled.

FIGURES 1 and 2. Male Yellow-bellied Sapsuckers (left in each photograph) and Red-naped Sapsuckers (right in each photograph). Note the extent of red on the throat; in *nuchalis,* the black bordering line is interrupted, in *varius* it is not. Also compare the color of the nape: white in *varius,* red in *nuchalis.* The greater amount of white on the back of *varius* is also visible.

Specimen photographs by Alan M. Craig

The separation of *varius* and *nuchalis* is far more delicate, and in some cases feasible only under extremely favorable conditions. Whenever possible, any critical bird should be trapped and examined in the hand. Both species have the same basic pattern: a red crown bordered by black; black auriculars continuing in a black band on the sides of the neck; a black nape interrupted by a white or red area; a red or white throat bordered by black, which also forms a broad breast patch; white underparts tinged with yellow; barred flanks; a black back and black scapulars with a greater or lesser admixture of white or whitish, either forming two distinct stripes or covering the entire back; black wings barred with white on the flight feathers, and with a large longitudinal white patch along the anterior part; a white rump; and a black tail with white bars and spots.



FIGURES 3 and 4. Female Yellow-bellied Sapsuckers (left in each photograph) and Red-naped Sapsuckers (right in each photograph). Note the white throat and chin of the former, while the latter has a red throat and a white chin. Again, the white nape of *varius* and the red nape of *nuchalis* can be seen; although the female *varius* has more white on the back than the female *nuchalis*, both specimens show more white than the male *nuchalis* in fig. 2.

The most important character in separating the two species, irrespective of the sex of the bird, is the color of the nape (fig. 2 & 4). Yellow-bellied Sapsuckers have the black nape line (the line that joins the posterior crown to the upper back) interrupted by a white or brownish-white area connected with the postocular stripe. In Red-naped Sapsuckers the corresponding area is red. Unfortunately, it is possible that this single character is not always reliable. I have not found any individual in the SDNHM that did not show it, but Howell, who has examined a larger number of specimens, claims that the nape of *varius* is "rarely tinged lightly with red" and, worse, that for *nuchalis* "in very rare instances the red of the nape is lacking". Besides, the red coloration is confined to the feather tips and could conceivably disappear through wear (complete moult in late summer and fall, partial moult about the head and throat early in spring – Bent, 1939).

Furthermore, even a small degree of hybridism could lead to the modification of such a single character. For all these reasons, it is not possible to rely entirely on the color of the nape for positive identification, and further supporting characters will have to be sought.

Male *nuchalis* can be fairly easily separated by the following additional characters: The throat is entirely red; the red covers the posterior part of the black malar strip, thus *interrupting* it and actually coming in contact with the white of the cheek; the red also extends over the upper part of the breast patch (fig. 1); often the auricular region is tinged with red. The white on the back is restricted to two definite stripes converging posteriorly; these stripes are narrower than those of *varius* (the stripes are chain-like, the white line being interrupted by black bars; however, in male *nuchalis* the individual white elements tend to be long and narrow, looking like "drops" while on those *varius* that show a "two striped" effect, the individual elements are short and broad, producing a ladder-like appearance); the white is usually pure or tinged with yellowish (fig. 2).

At the other extreme, female *varius* (fig. 3) are easily determined by their entirely white throat, without any red, bordered by a black frame. Some individuals lack red on the crown also.

Male *varius* have a solid red throat, and differ from male *nuchalis* primarily by the uninterrrupted black frame that borders the throat, so that the red does not come in contact with the white (fig. 1). Additionally, they have more white on the back; either the white spotting covers the back almost uniformly, or, if stripes are formed, they are broad and have the ladder appearance explained above (fig. 2); the white, at least in winter, is usually tinged with golden or bronzy buff; it is slightly different from the color of *nuchalis* when the two are compared directly.

Most female *nuchalis* have a white chin and a red throat (fig. 3), or sometimes a white chin and upper throat with only the lower throat red; this alone is sufficient to identify them. Unfortunately, a certain number of birds show an almost entirely red chin and throat, and they may be impossible to separate in the field from male Yellow-bellied Sapsuckers except by the color of the nape. Such a bird is shown in fig. 5 together with a male *varius*. Among 16 adult and 14 subadult (i.e. brown breasted) *nuchalis* individuals labeled as female in the SDNHM collection, 8 (3 adult and 5 subadult) have enough red in the throat and chin for those parts to be called entirely red in the fleld; 3 of those (1 adult, 2 subadult) have interrupted black frames and would simply pass for male *nuchalis* (which they might well be!),

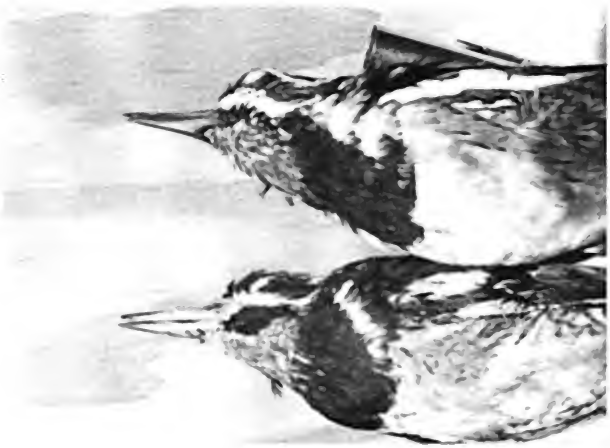


FIGURE 5. This photograph illustrates the difficulty of separating some female Red-naped from male Yellow-bellied Sapsuckers. This particular female *nuchalis* (below) has almost as red a throat as the male *varius* (above), and also has an uninterrupted black malar strip; note, however, that the former shows a little whitish near the base of the bill.

but 5 (2 adult, 3 subadult) have complete frames and could be called male *varius* in the field except for their red napes. Here lies, as already pointed out by Phillips and Marshall (1964), the main pitfall in field identification of *S. nuchalis* and *S. varius.* For those birds with a complete black frame around a solid red throat, the following guidelines are suggested. Male *varius* will have a truly uniform red throat, while, for female *nuchalis,* an admixture of white feathers will usually be noted, particularly toward the chin, if the bird can be examined in the hand or at very close range. *Varius* will in general have more white on the back, the pattern being indicated above; most female *nuchalis* have the same type of pattern as male *nuchalis* (narrow chain-like stripes), but some show the ladder-like stripes of *varius* and a very few do not even show any band pattern (fig. 4). Finally, it seems to me somewhat unlikely (?) that the red nape would be lacking in such a heavily pigmented female *nuchalis,* and it is not at all certain that the combination of fully red throat and white nape does exist in pure *nuchalis* females.

Any bird presenting what seems to be a combination of characters between the two species should be very carefully described and, if possible, photographed since very few possible hybrids are known.

As an illustration to this discussion, color drawings can be found in various field guides. The Red-breasted Sapsucker is very satisfactorily shown by Crosby in Godfrey (1966), by Eckelberry in Pough (1957), and by Peterson (1961), but all have chosen the race *ruber* for a model (as apparently did Singer in Robbins et al, 1966). Both sexes of the Yellow-bellied Sapsucker are well represented by Crosby in Godfrey, although the black frame around the throat is perhaps normally broader than shown, and by L. Agassiz Fuertes in Forbush and May (1953); a good picture of a male is given by Singer in Robbins et al. Satisfactory drawings of Red-naped Sapsuckers are not frequent, but Eckelberry shows a male in Pough; however, the red of the throat is more extensive than shown.

IMMATURES

The juvenile plumage of all species is strikingly different from the adult plumage, appearing mostly brown, with the red areas lacking, the white areas much obscured, the black head and breast pattern replaced by brown. The tail and wings are similar to those of adults. This plumage is replaced by a slow progressive moult. The three species are very similar to each other at that stage and their identification requires great care. Since *nuchalis* is somewhat intermediate in appearance between *varius* and *ruber,* we will discuss successively the *nuchalis-varius* and *ruber-nuchalis* identification problems.

The timing, sequence, and manner of the moult is of decisive importance in the identification of the first two species. Howell hints that the progress might be faster in *nuchalis* when he writes, "Moult is apparently as in *S. v. varius,* but adult plumage is sometimes attained by late fall and always by early spring at the latest." The *varius* material in the SDNHM is insufficient to draw definitive conclusions, but immature plumaged birds have been collected in September (1), October (5), December (1), February (1), and on 15 March (1); none has a uniformly red crown, and the March bird, a male, still has very little red in the throat. The *nuchalis* material is much more extensive. Twelve birds are in almost complete juvenile plumage; they were taken between 26 July and 2 September; four of them have partially red

crowns and some red on the throat (2 females: 26 August, 2 September; 2 males: 18 and 20 August); two (males, 6 August) have some red on the throat but none on the crown. Two birds collected on 3 and 30 August are intermediate, already showing a lot of the adult pattern, including a red nape, as well as some red on the crown and the throat. The other immatures (22 birds) show a completely adult-like plumage except for a brown, scalloped breast, and sometimes some brown in the malar stripe; they were collected in August (1), September (6), October (10), and early November (5). Only four specimens showing signs of immaturity were collected at a later date; two of them have a lot of black in the brown breast (male, 16 January and female, 28 December); a 5 February female might be hybrid, as is almost certainly the fourth bird, collected on the same date at the same place.

Thus, except on the breeding grounds, immature *nuchalis* can be expected to show much of the adult plumage, particularly the red areas, so that their identification is not different from that of adults; indeed, all the birds we have examined, except the twelve in nearly full juvenile plumage, show the red nape. Confusing females have already been included in the previous section under the label subadult. On the contrary, immature *varius* are much slower in developing, and individuals can be seen during most of the fall and winter with little or no red in the crown and throat; it is useful to discuss their characters in detail.

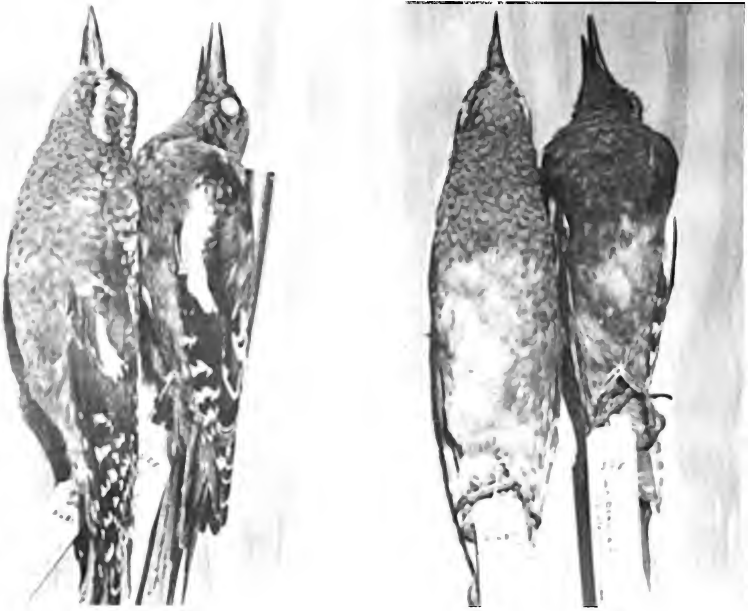
At any stage, the pattern of the crown is the most diagnostic feature of *varius*. At first the entire crown is dark brown, dotted with fine, sharp, very conspicuous, pale brown to golden or whitish spots, sometimes slightly elongated (fig. 6 & 8); often there is also a scattering of black spots. Later, scattered red feathers appear randomly throughout the crown, adding to the variegated effect; the red feathers cover more and more of the crown, but the light dotting remains apparent until the crown is solidly red. Conversely, juvenile *nuchalis* has a uniform dark brown crown, slightly darker than *varius*, sometimes with faint, paler brown spots, but rather diffuse and inconspicuous (fig. 8); often there is a uniform red suffusion, particularly near the bill and on the forehead. Soon, it seems that a solid red patch develops from the same area and includes progressively the whole crown; some of our birds show a partially red crown: the red region covers only the anterior crown, but there are no isolated red feathers appearing elsewhere.

FIGURE 6. Three immature Yellow-bellied Sapsuckers. Note the spotted crown and spangled back. The bird in the center is the California specimen (lower Colorado, 18 December 1938).

The light stripes of the head pattern are usually broader in *varius* than in *nuchalis,* and less sharply defined, giving a more frosty appearance; this is very difficult to evaluate and somewhat subjective. The supposed darker chin and throat of *nuchalis* (Howell) does not hold. (fig. 7).

Almost all our *varius* have a very yellow belly and the breast is yellowish buff-brown with heavy, sharp, dark brown scalloping. Juvenile *nuchalis* have a more uniform breast, brown with fine, indistinct scalloping; the belly is much less yellow. This corresponds to the descriptions of Ridgway and Howell, but it probably represents different stages of plumage. One *varius* in the collection, #22691 collected in Georgia in October, has hardly any yellow on the belly and an indistinctly scalloped breast; it is indistinguishable in that respect from juvenile *nuchalis* and may be representative of juvenile *varius.* Also, many *nuchalis* that have progressed beyond the complete juvenile plumage have the belly as yellow and the breast as distinctly scalloped as *varius;* note, however, that in that case they have fully developed red areas.

FIGURES 7 and 8. Two December immature Yellow-bellied Sapsuckers (two lower birds in each photograph) are compared with an August juvenile Red-naped Sapsucker (upper bird in each photograph). The California *varius* is in the center. Note the uniform brown cap of *nuchalis*, and its relatively unpatterned back. The heavy scalloping of the breast of *varius* can be seen. It is evident in these figures as well as in fig. 6 that the California bird has the characters of *varius*. In addition, the new white feathers of the throat of this bird can be seen in fig. 7.



FIGURES 9 and 10. August juvenile Red-naped Sapsucker (left in each photograph) and Red-breasted Sapsucker (right in each photograph). The latter has obscure face striping and a darker, more uniform breast. The specimen shown represents *S. ruber daggetti.*

The backs of all our immature *varius* are extremely striking, being entirely spangled with deep golden or very deep buff offset by black (fig. 6 & 8). The material available does not permit judging whether the juvenile bird is similar, but Bent describes a young bird, not fully grown, taken 25 July as boldly spotted with grayish or yellowish white on black. The back of juvenile *nuchalis* is a dull dark brown to black with white spotting, obscured on the upper back, and not tinged with buff or yellow, except sometimes on the lower part of the stripes (fig. 8); in first winter plumage, when the adult type back is acquired, it is not as extensively spangled nor as deeply colored as in *varius;* again in that case, the red areas are present.

According to Howell an occasional *S. nuchalis* is pale enough to be indistinguishable from a dark *S. varius.* However, we think that the pattern of the crown, at least, should make identification possible at any stage of plumage.

Juvenile Red-naped and Red-breasted Sapsuckers (fig. 9 & 10) are also fairly similar. *Ruber* has a darker head and breast, more sooty, and its breast is even more uniform, almost lacking any scalloping; better, the striping of the head of *ruber* is much obscured, reduced to a whitish moustache and frequently a dull white postocular spot (in *daggetti*). Usually the pileum, throat, and breast are washed with reddish, in which case identification is very easy. At any rate, the timing of the moult of *ruber* is very similar to that of *nuchalis,* or even faster, so that the adult plumage can usually be recognized at a very early age, simplifying the identification considerably. Birds away from the breeding grounds should pose no problems.

Very few color drawings of immature sapsuckers can be found in field guides; the bird shown by Peterson corresponds somewhat to *nuchalis,* while Singer's (in Robbins et al) is a combination of *varius* and *nuchalis.*

DISTRIBUTION IN CALIFORNIA AND BAJA CALIFORNIA

The distribution of the different forms within the two states is still imperfectly known, because of the lack of specific data from field observers, and the resulting necessity to rely on collected material which is by nature a very small and incomplete sample of the populations involved. This section is based mainly on the distributional checklists of Grinnell (1928) and Grinnell and Miller (1944), the studies of Howell (1952), and an examination of the SDNHM collection. The latter involved the reassessment of several specimens. All the specimens of the collection were discussed with Jean T. Craig, and she concurred with the identification of the critical individuals, namely *S. varius* (#31656), *S. nuchalis* x *S. varius* (#14286) and *S. r. ruber* x *S. nuchalis* (#31652) from Bard, along the lower Colorado, *S. r. ruber* from San Diego County (#30061) and the various hybrids *S. ruber* x *S. nuchalis* mentioned later. Our determinations were made by comparison with the local material only. The most important specimens (#31656, #30061, #31652) were examined by Alan M. Craig who agreed with their interpretation. Finally, #31656 and #30061 were sent to Dr. Allan R. Phillips who very kindly accepted to examine them.

The Red-breasted Sapsucker breeds in the coastal district south to Mendocino County, in the entire Sierra Nevada and in the connecting mountainous area in the extreme northern part of the state (extending east to the Warner Mountains). Isolated populations are found on the highest mountains of southern California, Mt. Pinos,

San Gabriel, San Bernardino and San Jacinto Mountains, and also on Mt. Palomar. As far as we know, the fact that the bird breeds on Palomar has not been published before. Arthur G. Morley (pers. comm.) has records of the species in Palomar State Park throughout the summer, from May (March in 1970) to September. His records date back to 1957. He obtained positive evidence of nesting twice; he observed a bird feeding young in an alder on 26 June 1966 (altitude 4600 feet) and he examined a fledgling found in a campground on 13 July 1970. All this information was generously supplied by Mr. Morley from his personal notes, together with ample details supporting the identification. I have seen the species, myself, on Palomar, but at a slightly different location from that of A. G. Morley's observations, on 14 April 1968. In winter, it occurs throughout the state but only very rarely in the southeast. Grinnell and Miller (op. cit.) mention only one record for the Mojave and Colorado Deserts. In Baja California it is recorded only from the western slope, south to Rosario. San Diego County and Baja California specimens in the SDNHM are from September 20 to February 17. Local sight records extend to early March (PD).

The only race included in the avifaunas of the states by Grinnell (1928) and Grinnell and Miller (1944) is *daggetti.* As Howell indicated, Grinnell somewhat arbitrarily assigned all northern California breeders to this race; actually, a line cannot be drawn to separate precisely the ranges of the two races, and the northern part of the state belongs to the region of intergradation. Birds referrable to *S. r. ruber* can, however, occur in winter. A specimen taken five miles northeast of Lakeside, near San Diego, on 9 November 1957 (SDNHM #30061) is exactly similar to the *ruber* material in the collection, which is entirely from Oregon. The red color is of the same depth and intensity, the red hood as extensive, and the back is identical, very black with greatly reduced and very yellow stripes. There are no white edgings to the outer tail feathers. The specimen shows a little more white than average on the extreme upper back. We feel that it belongs to the southern population of *ruber,* showing intergradation with *daggetti.* Dr. Phillips (in litt.) also assigns it to *ruber* but remarks that he, as well, could compare it only with Oregon material, and that the bird may represent the middle part of a cline. He adds that he has two probable migrants, taken in Humboldt County in October and February, which are still darker red and may represent birds from British Columbia. The San Diego bird is shown in fig. 11, between specimens of *ruber* and *daggetti.*

FIGURE 11. Red-breasted Sapsuckers. The lower specimen is typical of *daggetti* and the upper one of *ruber* (Oregon population). Note on the latter the lack of white on the back and on the remiges. The bird in the center is from San Diego County and approaches *ruber*.

The Red-naped Sapsucker breeds in the Warner Mountains where it is, by far, the dominant species. It also occurs, mixed with the Red-breasted and hybridizing with it, in neighboring areas to the west (Howell, 1952). Farther south it is a common breeder in the White Mountains (Miller and Russel, 1956; McCaskie, pers. comm.). A few pure birds might breed in the Sweetwater Mountains and adjacent areas of the east slope of the Sierra Nevada (Howell, 1952). It winters along the lower Colorado, in the Mojave and Colorado deserts, the coastal region south of about 35° of latitude, and sparingly over the entire peninsula of Baja California. It is everywhere the only or the dominant form, except on the Pacific slope of southwestern California, where it is rarer than *daggetti*. SDNHM specimens from southern California or Baja California have been taken between early October and early February; local sight records extend to early March (PD). There is a scattering of winter records from the area west of the Sierran divide and north of the 35th parallel. Those listed by Grinnell and Miller include one from Shasta County, five from the west slope of the Sierra Nevada and four from the coastal district between Marin and Santa Cruz Counties (some of those may pertain to migrants). More

FIGURE 12. A hybrid sapsucker, taken along the lower Colorado (center) is compared to a Red-naped Sapsucker (below) and a Red-breasted Sapsucker of the *ruber* race (above), the presumed parental forms. Note the great reduction of white on the back of the hybrid, which points to the black-backed *ruber* rather than to *daggetti.*

recently, winter records have been published (without supporting details) from the San Francisco Bay area (South San Jose, 20 January 1966, reported by D. D. McLean; Chase and Chandik 1966) and, more remarkably, from Mendocino County (Westport, 6 and 20 December 1954, seen by R. Coy; Cogswell and Pray, 1955).

Hybrids between the two species have been taken in summer in the overlap region, as mentioned earlier. The record of a hybrid, feeding young in the San Gabriel Mountains, far outside the contact area (McCaskie, 1964) should be disregarded (G. S. Suffel, pers. comm.). Wintering intermediates between *nuchalis* and *daggetti* are mentioned by Howell from "southern California" and Santa Cruz Island; he refers a specimen from Crescent City (northern coast), 29 November 1915, to *nuchalis* x *ruber ruber.* In the SDNHM collection, we recognize as *daggetti* x *nuchalis* hybrids, a bird from Dehesa, San Diego County (#31644, male, 15 February 1919), and one from the Pinta Mountains, Kern County (#11719, male, 4 November 1907). An individual taken near Lakeside, San Diego (#30058, 10 October 1957) is a hybrid of

nuchalis with either *ruber* or *daggetti.* An intermediate from the lower Colorado is, in our opinion, a *ruber ruber* x *nuchalis* hybrid; the white spotting of the back is reduced to very little (#31652, female, vicinity of Bard, 31 December 1916). It is shown in figure 12 between typical examples of *nuchalis* and *r. ruber.* A second hybrid is more difficult to assess, but may have the same origin (#31661, female, 23 October 1924, one mile north of Potholes). A few other individuals of either *nuchalis* or *daggetti* show "traces" of the other form but are very difficult to judge since they may be extreme variants.

The Yellow-bellied Sapsucker is not known to occur regularly in California or Baja California. One occurrence has been reported in the state: Pasadena, 19 July 1950 (Davis & Howell, 1951). The record was not accepted by McCaskie and coworkers (1970), because it pertained to a mummified specimen the origin of which clearly remains in doubt. The bird is an adult female, with a few red feathers in the throat indicating a probable degree of hybridism.

The species can, however, be expected in the two states, at least occasionally, since it has been recorded irregularly in the Tucson area of Arizona (Phillips et al, 1964, mention its occurrence in seven different winters, beginning in 1940, with several in 1952-53), and, at least casually, to the Arizona bank of the lower Colorado (Phillips et al, op. cit.).

In the SDNHM collection, specimen #31656, an immature female collected two miles north of Bard on the west side of the Colorado near Yuma, on 18 December 1938, by Laurence M. Huey, shows the characters of typical *varius.* The bird is illustrated in figure 6 with two Yellow-bellied Sapsuckers in similar plumage and in figures 7 and 8 with a Yellow-bellied and a juvenile Red-naped Sapsucker. In addition, the following description was made of the specimen:

> Chin and upper throat white. Dark brown moustaches. Lower throat and upper breast gray-brown. Middle breast heavily scalloped with dark brown on light brown. Belly and undertail-coverts pale yellow. Flanks brown, scalloped with blackish. Cheek brown and black. Whitish stripe behind eye. Crown dark brown, with fine, sharp, pale brown spotting, four red feathers and some black spots towards the rear. Upper back mostly golden buffy with black spotting. Lower back showing two broad golden buffy "ladders" with a narrow black line separating them. White band on closed wing (coverts). Primaries black, barred with white. Tertials broadly edged with white. Tail black; the inner webs of the middle pair of rectrices are barred black and white; the lateralmost rectrices have white dots on both webs.

The spotted crown with a few scattered red feathers is characteristic of *varius;* the coloration and pattern of the back and of the

underparts fall well within the limits of variation of that form. The lack of adult characters around the head is very unlikely for *nuchalis* at the late date this bird was collected (Dec. 18). Dr. Phillips compared this individual with his material and concurs with the identification. He writes (in litt.) that "this bird is a perfectly typical [*Sphyrapicus varius*] *varius*, and a good basis for its inclusion in the California list" (Dr. Phillips does not subscribe to recognizing three species of *varius* without further field evidence). He also points out that the bird has several new *white* feathers in the lower throat, including one with a black terminal spot; this region is always red in *nuchalis*. Those feathers, particularly the black tipped one, are visible on the photograph (fig. 7).

A female in the SDNHM collection, #14286, taken three miles north of Bard, on 5 February 1931, by L. M. Huey, has a white throat except for red patches in each lower corner, widely separated. The nape has a fair admixture of white (to what extent is difficult to judge on a specimen), the white stripes of the head are very broad, and, as mentioned before, the bird has a complete brown breast at the late date of 5 February. We consider this bird almost certainly a hybrid *nuchalis* x *varius*.

A second female, #14285, taken on the same day at the same place, cannot be positively assigned but could also be of mixed ancestry. The red of the throat is more limited than usual, being restricted to a narrow band on the lower quarter of the throat. The breast is brown with little black.

Finally, for the sake of completeness, the following observation from the San Diego area is related. The main reason to present it, is that only an accumulation of material, pertaining to probable or certain typical birds, and particularly to birds that exhibit possible hybrid characters, will permit drawing useful conclusions. A very few records will not throw much light on the status of the form within our boundaries, because of the complexity of a situation that may involve unrecognizable hybrids. In addition, this record will illustrate some of the difficulties involved in field identification.

On 20 December 1969 at Imperial Beach, just south of San Diego, Xenia Devillers located a sapsucker and drew my attention to it. The woodpecker was working low on the trunk of a eucalyptus tree with its back to the observers. It resembled a Red-naped Sapsucker, but, at first inspection, the complete lack of red on the nape was very striking; suspecting that the bird could be a Yellow-bellied Sapsucker, I took the following description of it:

Forehead and crown bright red bordered with black; black stripe running down the middle of the nape interrupted by a very narrow white gap just below the crown. Black stripe through eye to the sides of the neck. Chin and throat bright red bordered by a broad black band. Rest of head and neck whitish. Upper breast brownish; rest of underparts yellowish; flanks marked with dark gray "V"s on a yellowish ground color. Center of the back, black. On either side, a broad band, buff or pale brown, barred with black. Coverts black with a broad white band near the edge of the wing. Secondaries black with large white dots. Primaries black with fine terminal white edges. Rump white. Tail black.

The bird was kept under observation for about half an hour as it worked in a small group of eucalyptus trees located in an old overgrown garden. The general area is residential with eucalyptus-bordered lanes, the trees bearing numerous marks of sapsucker presence. Several attempts at relocating the bird later both by the writer and by other observers failed. Long, careful scrutiny at less than thirty feet, with 7x50 binoculars, and in good light (bird at eye-level), showed beyond any doubt that there was not a trace of red on the nape and that the narrow interruption in the black stripe was white. Considerable attention was also given to the chin in order to eliminate the possibility of a female *nuchalis,* and no white feather could be found.

We are unfortunately confronted with a bird with a full red throat and a complete black frame, which is the most difficult type. However, in addition to the very significant white nape, the complete lack of white in the throat and the wideness of the black frame are characters of male *varius.* The pattern of the back with very broad and ladder-like pale stripes is also indicative, although it is not extreme and could easily be matched by a female *nuchalis.* In addition, the buff coloration is of *varius* type. A completely brown breast at this late date is unlikely in *nuchalis;* on the other hand, it is early for *varius* to have complete red areas on crown and throat. The evidence seems to point towards a male Yellow-bellied Sapsucker in transitional plumage, but the possibility of a hybrid or of an extreme variant *nuchalis* (female) cannot be entirely eliminated.

I hope these notes will encourage observers to study sapsuckers critically, particularly along the lower Colorado and in the San Diego area; I feel confident the near future will produce more records of *varius.*

"VAGRANCY" IN THE *SPHYRAPICUS VARIUS* COMPLEX

The consideration of "extralimital" records in this group is particularly interesting, because of their connection with the hybridi-

zation phenomenon. Four forms with very different migratory habits come in contact and hybridize. Since the migration mechanisms are in all probability under genetic control, it is to be expected that they will be strongly affected by hybridization. Hybrid individuals will inherit the migratory behavior of either of the parent species, or perhaps some combination of both, if such a thing is possible. We can thus expect to find hybrids in the winter range of either of the parent species, and this could, of course, include birds which are phenotypically (at least as far as external appearance is concerned) identical to the other parent species, although genetically of mixed ancestry. Such birds would appear as "pure" individuals having straggled from their normal range. Many of the extralimital occurrences of sapsuckers can probably be explained by such a mechanism. One can argue that innumerable "vagrant" records also exist in species that do not hybridize in this manner. However, those involve mostly birds on migration which can be assumed to have defective orientation mechanisms. They are not usually found wintering much closer to or much farther from the breeding range of the species than normal individuals. The "vagrant" sapsuckers, on the contrary, are mostly seen in winter, in areas which are well outside the winter range of the species they resemble, but inside that of another form. The journey involved may be much longer, or much shorter, than that normally performed by the species. It is notable, furthermore, that among those "extralimital" individuals there appears a number of clear hybrids.

S. r. ruber, an almost sedentary form, is recorded from Arizona (three records, October to February, Phillips, et al, 1964); in addition, an "occasional intermediate towards *nuchalis* has been taken" (Phillips, et al, op. cit.). From southern California there are the San Diego bird (#30061), approaching *ruber,* and the lower Colorado *ruber* x *nuchalis* (#31652 and possibly #31661) mentioned before.

S. r. daggetti, a short distance migrant, has straggled to Arizona, (two records, Sacaton, 9 February 1910, and lower Colorado, 23 January 1953 – Phillips et al, 1964); a bird identified as a hybrid *daggetti* x *nuchalis* was collected in Albuquerque, New Mexico, on 13 March 1962 (Niles, 1966).

S. nuchalis has been found in Guatemala, according to Griscom (1932), hundreds of miles south of its normal range, but in the range of *varius;* I have not seen the original Salvin and Godman record, also quoted by the A.O.U. and have no idea of its validity. Records from San Luis Potosi and Yucatan are mentioned in passing by Howell (1953), but I do not know the basis of his statement, and the records

have not been included in the A.O.U. checklist (1957), or in the Mexican Checklist of Miller et al. (1957) A scattering of records from California, west of the Sierran divide and north of the 35th parallel, are north of the normal wintering range, but in the range of *S. ruber.* Particularly significant is the Westport record (Cogswell and Pray, 1955).

S. varius is irregularly found in Arizona and probably to southern California. It is difficult to decide whether this constitutes the northwestern limit of the normal winter range (the bird having been overlooked in northwestern Mexico), or whether the range as outlined by Howell is correct, in which case all the Arizona-California records could pertain to a genetically mixed stock. It should be noted that such birds would not have to be scattered throughout the wintering range of the other parent species, since they could parallel the habits of a local population, which might occupy a limited portion of the wintering range. The large number of birds involved in the Arizona records (in the winter of 1952-53, in the Tucson area, *varius* outnumbered *nuchalis,* G. Monson, 1953) however, supports the idea that the region is within the normal wintering range of the Yellow-bellied Sapsucker.

Certainly, a very interesting pattern could be revealed by careful observation of "extralimital" sapsuckers and particularly of probable hybrids on their wintering grounds. As pointed out by Howell, those may be particularly difficult to identify, since many could be matched by extreme types of individual variation within the typical population.

ACKNOWLEDGEMENTS

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SUMMARY

The general distribution of the Yellow-bellied Sapsucker *Sphyrapicus varius,* Red-naped Sapsucker *S. nuchalis* and Red-breasted Sapsucker *S. ruber* is briefly outlined. The information gathered by Howell about their contact and hybridization is summarized and the more recent scattered observations concerning these matters are added. The reasons to treat the three forms as distinct species are discussed.

The identification problem is considered in detail, using the San Diego Natural History Museum (SDNHM) collection as a reference. Adult Red-breasted Sapsuckers can be easily identified by their red hood, with or without white and black head markings. Red-naped Sapsuckers are very similar to Yellow-bellied Sapsuckers but have a red patch in the middle of the nape. In addition, male *nuchalis* have an extensive red throat patch, overlapping the malar stripe, while female *varius* have a completely white throat. Usually, female *nuchalis* have a white chin and a red throat but some have the throat entirely red, and are very similar to male *varius.* In juvenile plumage, *varius* can best be told from *nuchalis* by its spotted crown (*nuchalis* has a uniform crown); *ruber* is characterized by indistinct head striping and often a reddish suffusion over the hood. At later stages Red-naped and Red-breasted Sapsuckers show very rapidly the red areas of the adult plumage; Yellow-bellied Sapsuckers, on the contrary, are very slow in acquiring those marks; a scattering of red feathers on the crown is typical of them. Additional characters are discussed in the text, both for adults and for immatures, and this summary should by no means be used as a "key".

The distribution in California and Baja California is summarized from standard sources, recent literature, and with the help of the SDNHM collection. The Red-breasted Sapsucker is fairly widespread as a breeder in the mountainous and northern areas, wintering everywhere, except in the desert. The Red-naped Sapsucker is a very local breeder in extreme eastern California, wintering in southern California and in Baja California. The Yellow-bellied Sapsucker, not previously recorded from either state, is represented by a specimen in the SDNHM collection, an immature female taken in December along the lower Colorado. An individual of the northern race of *ruber,* from San Diego County, is described; the race had not been recorded from the two states. Several hybrid *ruber* x *nuchalis, nuchalis* x *daggetti* and particularly one *varius* x *nuchalis* found in the SDNHM collection are mentioned.

Finally, extralimital records in the group are discussed and it is argued that many result from the interbreeding between the forms.

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APPENDIX

Date and locality of collection of the specimens illustrated:

Fig. 1, left, male *varius,* 21 February 1930, Texas; right, male *nuchalis,* 19 February 1938, Nevada. Fig. 2, left, male *varius,* 5 March 1933, Georgia; right, male *nuchalis,* 19 February 1938, Nevada. Fig. 3, left, female *varius,* 28 March 1930, Georgia; right, female *nuchalis,* 27 April 1878, Colorado. Fig. 4, left, female *varius,* 20 April 1916, Wisconsin; right, female *nuchalis,* 27 April 1878, Colorado. Fig. 5, below, female *nuchalis,* 25 July 1903, Colorado; above, male *varius,* 1 October 1891, New York. Fig. 6, immature *varius;* above, female, 26 October 1928, Georgia; center, female, 18 December 1938, California; below, male, 5 October 1927, Georgia. Fig. 7, and 8, above, juvenile male *nuchalis,* 1 August 1917, Modoc County, California; center, immature female *varius,* 18 December 1938, California; below immature female *varius,* 18 December 1924, Georgia. Fig. 9 and 10, left, juvenile female *nuchalis,* 19 August 1917, Modoc County, California; right, juvenile *daggetti,* 14 August 1885, San Bernardino Mountains, California. Fig. 11, above, *ruber,* 2 November 1913, Oregon; center, *ruber,* 9 November 1957, San Diego County, California; below, *daggetti,* 5 December 1926, Baja California. Fig. 12, above, *ruber,* 2 November 1913, Oregon; center, female *nuchalis* x *ruber,* 31 December 1916, California; below, male *nuchalis,* 19 February 1938, Nevada.

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NOTES

TWO CALIFORNIA RECORDS OF GRACE'S WARBLER

The summer range of Grace's Warbler *Dendroica graciae* extends as far north and west as southern Nevada. In Nevada it is recorded as a fairly common summer resident in the Sheep Range (Johnson, 1965) and it has also been observed by Jaeger (1927) and Austin (1969) during the nesting season in the Spring Mountains (although both Johnson, and Jaeger himself, have questioned the earlier observation). These two localities are within sixty and thirty miles, respectively, of the California border. *D. g. graciae,* the race which breeds in the United States, is a fairly long distance migrant; definite winter records of this race in Mexico range from Tepic, Nayarit to Amecameca, State of Mexico and Tres Marias, Morelos (Webster, 1961). Considering its normal range and migratory habits, one may expect Grace's Warbler to stray into California occasionally.

The first known occurrence of Grace's Warbler in California was a female collected near Imperial Beach, San Diego County by Guy McCaskie on 29 October 1966. I have examined the specimen, San Diego Natural History Museum #36047, and compared it with other Grace's Warblers in this collection. On 8 September 1968, Martin Terschuren mist netted another individual of this species on Point Loma, San Diego County. I banded, photographed, and released this bird, which is shown in the accompanying photograph. The color slide from which this photograph was made shows a yellow supercilium (becoming white behind the eye), a yellowish spot below the eye, and a yellow chin, throat and breast. A color slide of this bird is deposited in the San Diego Natural History Museum.

Grace's Warbler *Dendroica graciae* photographed on Point Loma, San Diego, California on 8 September 1968.

Grace's Warbler has rarely been recorded away from pines, though as Webster (1961) has pointed out, it must occur outside of this habitat during migration. The Imperial Beach bird was foraging in an isolated grove of tamarisks *(Tamarix sp.)* surrounded by open farmland. The Point Loma bird was caught in a residential area where there are numerous mature pines of several species.

The bird found near Imperial Beach appears to be an exceptionally late fall migrant. Phillips, Marshall and Monson (1964) cite only one record of Grace's Warbler beyond 27 September in Arizona, that of a bird taken by Coues at Prescott on 29 October 1864. According to Ligon (1961), this species has not been recorded in New Mexico later than 6 October. There are two published December records for the United States. Both are sight records and neither appears to have been documented with a photograph or a detailed description, although in both cases the observers involved are considered competent (R. H. Wauer, pers. comm.). One was recorded by Clyde and Lois Harden on the Zion National Park, Utah, Christmas Bird Count 21 December 1965("all week at feeder, studied at 10 ft." – Audubon Field Notes 20:352, 1966). The second was also seen in Zion National Park, by Barbara A. Lund "in December" 1966 (AFN 21:444, 1967).

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AN OLIVACEOUS FLYCATCHER IN CALIFORNIA

An Olivaceous Flycatcher *Myiarchus tuberculifer* was discovered in the extensive grove of old date palms at Furnace Creek Ranch in Death Valley National Monument, Inyo County, California, on the afternoon of 23 November 1968. Furnace Creek Ranch is an isolated oasis with abundant water and vegetation and is surrounded for many miles in all directions by dry rocky hills and sterile alkaline flats. As such, it concentrates wandering birds, and a number of "vagrants" have been found there in recent years.

This flycatcher was first noticed by Bruce Broadbooks, who was attracted by the combination of small size, comparable to that of a phoebe *Sayornis* sp., and light yellow underparts. By the time Ralph Mancke and the writer saw the bird a flash of rust in the tail and wings made it an obvious *Myiarchus*. It called repeatedly with a plaintive "peeur" note similar to that of Olivaceous Flycatchers in Arizona. This call, in combination with the medium gray throat, led us to identify it as an Olivaceous Flycatcher. While I was securing permission to collect the bird it was shown to Xenia and Pierre Devillers, and to Guy McCaskie. They concurred with the identification, primarily on the basis of the plaintive descending call, with which they were familiar from previous experiences in either Mexico or Arizona.

The bird was studied off and on during a period of about an hour as it moved among the fronds of the tall palms. The following description is drawn from my notes and those of GMcC and PD:

> A small *Myiarchus*, clearly smaller than an Ash-throated Flycatcher *M. cinerascens*, for it was hardly larger than the accompanying House Finches *Carpodacus mexicanus*. Upper parts brownish or brownish-olive; the top of the head appeared a little darker than the rest of the upper parts. Throat and breast mouse gray, rather dark, contrasting sharply with the fairly bright yellow belly and crissum. A trace of rusty color was visible in the wings and tail. Bill black and small for a *Myiarchus*. When the bird was collected it was noted that the mouth lining was yellowish orange or buffy orange.

The specimen was stored in a freezer in the Death Valley Museum at Furnace Creek Ranch for about a month, then taken to the Los Angeles County Museum of Natural History, where it is ♯ 66519. When prepared it was found to be a male with little fat and small testes. The identification was confirmed by Dr. James Northern, who compared it with the extensive material from North and Central America deposited in the Los Angeles County Museum.

The species is widespread in Mexico, Central America, and parts of South America. In the United States it is a summer visitor from southeastern Arizona (Baboquivari Mountains on the west) to southwestern New Mexico (San Luis Mountains) (A.O.U. Check-list, 1957). It has been recorded east to western Texas (Chisos Mountains) (Wauer, pers. comm. to GMcC), and west to Sells, Pima County, Arizona (Phillips et al., The Birds of Arizona, 1964). A straggler was collected in Bent County, Colorado, on 11 May 1883 (Thorne, Auk 6:276, 1889). In Arizona it has been recorded as early as 31 March and as late as 13 October (Phillips et al., op. cit.); the other records within the United States fall between these extremes. The record from Furnace Creek Ranch is the first for California,

and is more than a month later than the previous latest date for the United States. *G. Shumway Suffel, 1105 North Holliston Avenue, Pasadena, California 91104.*

[At the request of the editors, Dr. J. Northern kindly agreed to re-examine and describe the tail pattern of the specimen to provide further printed support for its identification. He indicated (pers. comm.) that each rectrix was mostly dark with only a narrow, though very definite, rufous edging, 1.0 to 1.5 mm in width, on the outer vane, and a very slight inconspicuous buffy edging on the inner vane; the outer rectrix had no pale edgings.

This tail pattern is characteristic of *M. tuberculifer* (Ridgway, Birds of North and Middle America, part 4, p. 642, 1907) and clearly eliminates Nutting's Flycatcher *M. nuttingi,* the only other North American *Myiarchus* likely to straggle to California that has the combination of orange mouth lining, whistled call, and small size. Indeed, *M. nuttingi,* which has wandered to Arizona and northern Baja California, has essentially rufous rectrices, with only a narrow central dark stripe (Lanyon, Condor 63:426, 1961); besides, nuttingi has a shorter less plaintive whistle. The orange mouth lining alone was sufficient to eliminate Ash-throated Flycatcher *M. cinerascens* and Wied's Crested Flycatcher *M. tyrannulus:* the latter, as well as Great Crested Flycatcher *M. crinitus,* is also much larger. Note that the tail pattern also eliminates the totally unlikely *M. yucatanicus* (Lanyon, American Museum Novitates 2229: 3, 1965).

Dr. Northern indicated that the specimen had not been racially identified. On the basis of "geographic probability" the northwestern form *olivascens* seems likely, but it should be noted that a Baja California specimen, admittedly from the extreme south, was referred to *M. t. tresmariae* (Phillips, Auk 66:92, 1949) *–PD*]

BLUE JAY IN CALIFORNIA

On 30 October 1963 Dr. John D. Goodman of the University of Redlands heard a strange call outside his home in Igos, San Bernardino County, and upon investigating found a Blue Jay *(Cyanocitta cristata)*. This bird remained in and around Igos, a small community along Mill Creek Canyon at 3900 ft. elevation in the San Bernardino Mountains, until 20 April 1964. It was usually with a loose mixed flock of Steller's Jays *(Cyanocitta stelleri)* and Scrub Jays *(Aphelocoma coerulescens)* frequenting the area, and often came to feeders maintained by the local residents.

I saw this Blue Jay on 7 December 1963 and again on 7 February 1964. On both occasions it was with Steller's Jays and Scrub Jays that responded to "squeaking"; however, it appeared to be more wary than its companions, and did not come as close. On the first occasion I had the bird under observation for about 30 minutes and obtained the following description:

> About the size of a Scrub Jay, but appeared plumper, had a slightly shorter tail, and had a crest. Top of the head, back, scapulars and rump purple-blue. Wings blue, with black barring on the secondaries and upper wing coverts, and a bold white bar at the ends of the secondaries and greater secondary coverts. Most of tail blue with black barring, but with extensive white on ends of outer tail feathers. Side of face, to above the eye, and throat white; lores black, and a black line extending backward from the eye. Face and throat outlined by bold black collar extending from the bottom of throat, around the edge of ear coverts, and up into the back portion of crest on upper nape. Breast and flanks pale grayish-white fading into white on belly and under tail coverts. Bill black. Legs and feet blackish. Eye appeared dark.
>
> The bird called on a few occasions, a clear high-pitched "eeeeeef" that somewhat resembled the note of a Common Flicker *(Colaptes auratus)*.

The most striking characteristics of this jay were the white bars in the wings, the white corners to the tail, and the bold black collar, all marks possessed by none of the western jays. The blue of the upper parts was a very different shade than that of any of the western jays, and it contrasted sharply with the blue of the wings and tail.

A Blue Jay heard calling on the Chico State College campus, Chico, Butte County, on 24 April 1950 by Dr. Thomas L. Rodgers (pers. comm.) appears to be the only other record for California. This individual was collected the same day and is deposited in the Chico State College bird collection.

Neither of the two jays had bands or other types of markings on them, and the feathers showed no signs of captivity (an escapee will loose all signs of wear once it molts). Goodman checked around the small community of Igos to see if any of the residents had lost, or knew of anyone who had lost, a captive Blue Jay, and received only negative responses. Rodgers checked with the local aviary owner and found she had never had a Blue Jay. I have never seen a captive Blue Jay outside a zoo in California, nor have I heard of any being kept here, though I have seen other members of the Corvidae being held as pets. In the East Blue Jays are frequently kept as pets, and the fact that there is no definite evidence that either of these two birds was an escapee can never eliminate the possibility that they had been transported to California where they escaped or were released.

The Blue Jay is normally considered a resident bird within its range in eastern North America (A.O.U. Check-list, 1957). However, there is much evidence that these birds migrate in the fall. Numbers in the thousands have been

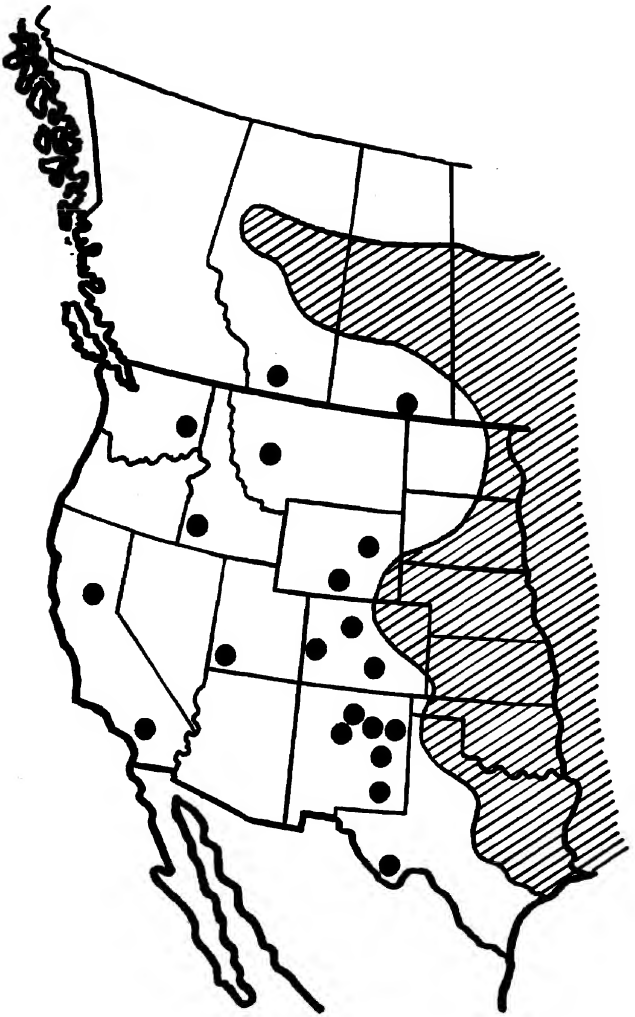

FIGURE 1. The western edge of the Blue Jay's range, and some localities westward from which it has been reported during the fall and winter.

reported moving at such localities as Cos Cob, Connecticut (Audubon Field Notes 16:13, 1962), Amherstburg, Ontario (A.F.N. 21:28, 1967), and others too numerous to mention. A check of records published during the past ten years indicates that there is some movement towards the southwest in the fall. Fig. 1 shows the western boundary of the breeding range, and also indicates localities west of that boundary from which individuals have been reported. The westernmost of these occurrences (all unchecked, and as they appear in Audubon Field Notes) are one on Turnbull National Wildlife Refuge, about 15 miles south of Spokane, Washington, on 29 September 1968 (A.F.N. 23:84, 1969); one on Ravalli Refuge, about 25 miles north of Missula, Montana, on 19 November 1968 (A.F.N. 23:84, 1969); one in Star, about 20 miles west of Boise, Idaho, during the winter of 1959-60 (A.F.N. 14:329, 1960); one in Cedar City, Utah, on 29 October 1966 (A.F.N. 21:63, 1967); one in Albuquerque, New Mexico, between 7 December 1965 and 19 February 1966 (A.F.N. 20:447, 1966), and another there during the winter of 1967-68 (A.F.N. 22:466, 1968); one in Big Bend National Park, Texas, during the winter of 1967-68 (A.F.N. 22:466, 1968).

The California occurrences appear more likely to have been genuine strays from the western edge of their breeding range rather than escapees when the following facts are considered:

1. Neither individual exhibited the characters of a recent escapee.
2. No Blue Jays were known to have been released, or lost, in the immediate vicinity of either of the two localities.
3. One individual appeared in the fall and remained for the winter, a pattern being set by other westward occurring individuals of this species. The other occurred at the time of year when it would be expected to be moving from its winter quarters to its normal range. *Guy McCaskie, San Diego Natural History Museum, Balboa Park, San Diego, California 92112.*

AN INLAND RECORD OF THE BLACK OYSTERCATCHER

On the afternoon of 5 July 1969 I saw a Black Oystercatcher *(Haematopus bachmani)* flying among the deciduous trees along Bear Creek about two miles east of Shelter Cove, Humboldt County, California. This point is about twenty miles upstream and is at an elevation of about 1400 feet; it is separated from the nearby coast by a ridge with peaks reaching more than 3000 feet. The weather was bright and clear for the week prior to the observation; thus the possibility of the bird having become lost in the usually common coastal fog is unlikely.

The Black Oystercatcher is resident along the rocky coast between Alaska and Baja California and is relatively uncommon along the Humboldt County coast. There appear to be no previous records of this species away from the coast, and even though this bird was but two miles inland, it more than likely followed Bear Creek twenty miles upstream. *Raymond Higgs, Point Reyes Bird Observatory, Bolinas, California 94924.*

CORRIGENDUM

CALIFORNIA CHECKLIST NOMENCLATURE CHANGES

We are grateful to Eugene Eisenmann, Chairman, A.O.U. Committee on Classification and Nomenclature, for the following comments pertaining to the nomenclature used in "A Checklist of the Birds of California" (Calif. Birds 1: 4-28):

"I note that your California species list adopts a number of changes from the nomenclature of the last A.O.U. Check-list of North American Birds. May I point out a few others, involving purely nomenclatural (not taxonomic) considerations, worth bearing in mind? Your list overlooked a few corrections made by the last A.O.U. Check-list Committee shortly after the printing of the 1957 Check-list, which were embodied in the second printing and were published in *The Auk* 79 (3): 493-494, 1962. Those pertinent that you did not catch were the correction of the ending of the specific name of the Cape Petrel which should be *Daption capense* and of the Bohemian Waxwing which should be *Bombycilla garrulus,* and the correction of the English specific name by inclusion of a hyphen in Red-winged Blackbird. If one follows the International Code of Zoological Nomenclature the correct spelling of the specific name of the Wandering Tattler should be *Heteroscelus incanus.* Further, the International Commission on Zoological Nomenclature has directed that the following changes in specific or generic names be made (despite priority of some other name): Eared Grebe – *Podiceps nigricollis;* Common Snipe – *Gallinago gallinago;* Cardinal – *Cardinalis cardinalis.*

"Let me say that I see no objection in local lists to following the A.O.U. Check-list (with the official 1962 corrections) as published, and indeed that may be the wisest course. But as long as your list deviated to a considerable degree, I thought that it would be well to call attention to other purely nomenclatural changes warranted by the International Code. In writing this let me make clear that the present A.O.U. Check-list Committee has made no rulings on these possible changes."

In addition, the family name "Ciconiidae" should be inserted between American Bittern and Wood Stork.

The changes in the spelling of the scientific names of Cape Petrel, Bohemian Waxwing and Wandering Tattler are required to make the specific names agree in gender with the generic names (*Daption* is neuter, *Bombycilla* is masculine and *Heteroscelus* is a compound name to be considered masculine under Declaration 39 of the International Commission on Zoological Nomenclature). The changes in the scientific names of Eared Grebe, Common Snipe and Cardinal are in accordance with the following rulings of this Commission: Opinion 406 suppressing *caspicus* and validating *nigricollis,* Direction 39 validating *Gallinago* and rejecting *Capella,* and Opinion 784 validating *Cardinalis* and rejecting *Richmondena.*

All of the suggested changes should be made in the California Checklist. It should be stressed that these errors were an oversight on our part rather than an intentional deviation from International Commission rulings. As Sir Landsborough Thomson so aptly stated in *A New Dictionary of Birds,* ". . .to regard nomenclature as more than a means to an end is pedantry, and to take a minority course in a matter of convention is merely a nuisance."

While we are greatly indebted to Mr. Eisenmann for bringing these corrections to our attention, we cannot agree that local lists should continue to follow the A.O.U. Check-list strictly. To do so would be to ignore both taxonomic evidence brought to light in the last thirteen years and recently proposed species criteria as well. *Guy McCaskie, Pierre Devillers, Alan M. Craig, Clifford R. Lyons, Virginia P. Coughran, Jean T. Craig.*